

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP03/00425

A. CLASSIFICATION OF SUBJECT MATTER  
Int.Cl<sup>7</sup> H04N7/36

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
Int.Cl<sup>7</sup> H04N7/24-7/68

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched  
Jitsuyo Shinan Koho 1922-1996 Toroku Jitsuyo Shinan Koho 1994-2003  
Kokai Jitsuyo Shinan Koho 1971-2003 Jitsuyo Shinan Toroku Koho 1996-2003

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages   | Relevant to claim No.   |
|-----------|--|---|
| Y         | JP 10-224795 A (Nippon Telegraph And Telephone Corp.),<br>21 August, 1998 (21.08.98),<br>Full text; Figs. 1 to 3<br>(Family: none) | 1-5, 7-11,<br>17, 18, 21, 22,<br>30, 34<br>6, 12-16, 19,<br>20, 23-28, 31,<br>32, 35-46                             |
| A         |  |   |
| X         | JP 11-239351 A (Nippon Telegraph And Telephone Corp.),<br>31 August, 1999 (31.08.99),<br>Full text; Figs. 1 to 3<br>(Family: none) | 13, 15, 19, 20,<br>23, 24, 27, 31<br>1-5, 7-11,<br>14, 16, 17, 18,<br>21, 22, 28, 32<br>6, 12, 25, 26,<br>30, 34-46 |
| Y         |  |   |
| A         |  |   |

☒ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

|   |  |
|---|--|
| * Special categories of cited documents:  | "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention  |
| "A" document defining the general state of the art which is not considered to be of particular relevance  | "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone   |
| "E" earlier document but published on or after the international filing date  | "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art |
| "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) | "&" document member of the same patent family  |
| "O" document referring to an oral disclosure, use, exhibition or other means  |  |
| "P" document published prior to the international filing date but later than the priority date claimed  |  |

Date of the actual completion of the international search  
21 April, 2003 (21.04.03)

Date of mailing of the international search report  
06 May, 2003 (06.05.03)

Name and mailing address of the ISA/  
Japanese Patent Office

Authorized officer

Facsimile No.

Telephone No.

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## C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages   | Relevant to claim No.  |
|-----------|--|------------------------|
| Y         | JP 6-350995 A (Casio Computer Co., Ltd.),<br>22 December, 1994 (22.12.94),<br>Full text; Figs. 1 to 7<br>(Family: none)  | 3, 4, 9, 10, 28,<br>32 |
| Y         | JP 5-41861 A (Toshiba Corp.),<br>19 February, 1993 (19.02.93),<br>Par. No. [0110]; Fig. 26<br>& US 5317397 A   | 5, 11                  |
| Y         | JP 5-37915 A (Matsushita Electric Industrial Co.,<br>Ltd.),<br>12 February, 1993 (12.02.93),<br>Full text; Figs. 1 to 7<br>& EP 526163 A2 & US 5412430 A             | 14, 16, 30, 34         |
| Y         | JP 4-127689 A (Hitachi, Ltd.),<br>28 April, 1992 (28.04.92),<br>Full text; Figs. 1 to 3<br>(Family: none)  | 36, 38                 |
| Y         | JP 10-136374 A (NEC Corp.),<br>22 May, 1998 (22.05.98),<br>Full text; Figs. 1 to 4<br>(Family: none)   | 36, 38                 |
| X         | Edited by Multi Media Tsushin Kenkyukai, "Point<br>Zukaishiki Saishin MPEG Kyokasho", First edition,<br>Ascii Corp., 01 August, 1994 (01.08.94),<br>pages 117 to 118 | 35, 37                 |
| A         | JP 2000-115776 A (Victor Company Of Japan, Ltd.),<br>21 April, 2000 (21.04.00),<br>Full text; Figs. 1 to 8<br>(Family: none)   | 29, 33                 |
| A         | JP 5-308630 A (Victor Company Of Japan, Ltd.),<br>19 November, 1993 (19.11.93),<br>Full text; Figs. 1 to 3<br>& US 9701171 B1 & KR 9701171 B1                        | 39-46                  |
| A         | JP 3-145392 A (NEC Corp.),<br>20 June, 1991 (20.06.91),<br>Full text; Figs. 1 to 3<br>(Family: none)   | 39-46                  |

# INTERNATIONAL SEARCH REPORT

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## Box I Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:  
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box II Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

(See extra sheet)

1. ☒ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest ☐ The additional search fees were accompanied by the applicant's protest.  
☒ No protest accompanied the payment of additional search fees.

Continuation of Box No.II of continuation of first sheet(1)

(1) The technical feature of claims 1-12, 17, 18, 21, 22, 25, 26 relates to a motion compensation inter-frame coding performed by selecting one macro block, an average of a plurality of macro blocks, or a macro block obtained by linear prediction of a plurality of macro blocks.

(2) The technical feature of claims 13-16, 19, 20, 23, 24 relates to creation of a prediction macro block by linear prediction using a plurality of reference frames, motion compensation inter-frame coding, and coding of a prediction coefficient.

(3) The technical feature of claims 27, 28, 31, 32 relates to creation of a prediction macro block by linear prediction using a plurality of reference frames, motion compensation inter-frame coding, and coding of a combination of reference frames and a prediction coefficient as an index.

(4) The technical feature of claims 29, 33 relates to motion compensation inter-frame coding performed by switching for each macro block between a use of a motion vector of a macro block located at the same position in a frame immediately before and a use of a new motion vector to be coded.

(5) The technical feature of claims 30, 34 relates to motion compensation inter-frame coding by using as a reference frame, a past frame, a future frame, a linear sum of past and future frames, or a linear sum of a plurality of past frames.

(6) The technical feature of claims 35, 37 relates to motion compensation inter-frame coding performed by skipping a block which need not be coded.

(7) The technical feature of claims 36, 38 relates to motion compensation inter-frame coding in which a difference vector from a prediction vector is coded.

(8) The technical feature of claims 39-46 relates to calculation of a prediction coefficient from an AC component value and a DC component value in the frame to create a prediction macro block by linear prediction using a plurality of reference frames and perform motion compensation inter-frame coding and coding of a prediction coefficient.

[1] The technical feature common to any two of the aforementioned groups of claims (1) to (8) is to perform motion compensation prediction inter-frame coding.

[2] The technical feature common to any two of the groups of claims (1)-(3), (5), and (8) is to perform motion compensation inter-frame coding by linear prediction using a plurality of reference frames.

[3] The technical feature common to any two of the groups of claims (2), (3), and (8), is to perform motion compensation inter-frame coding by linear prediction using a plurality of reference frames and coding of a prediction coefficient.

However, the search has revealed that the technical features [1] to [3] are not novel since they are disclosed in document JP 9-163376 A (Nippon Telegraph and Telephone Corp.), 1997.6.20.

As a result, the technical features [1] to [3] make no contribution over the prior art and cannot be a special technical feature within the meaning of PCT rule 13.2, second sentence.

Consequently, there exists no special technical feature common to any two of the aforementioned groups of inventions (1) to (8).

Since there exists no other common feature which can be considered as a special technical feature within the meaning of PCT Rule 13.2, second sentence, no technical relationship within the meaning of PCT Rule 13.2 between the different inventions can be seen.

Therefore, it is obvious that claims 1-46 do not satisfy the requirement of unity of invention.